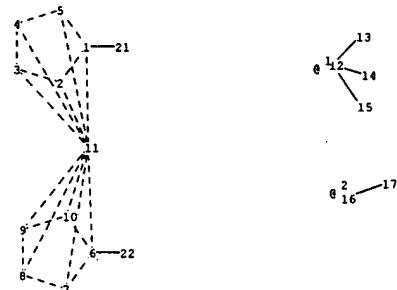
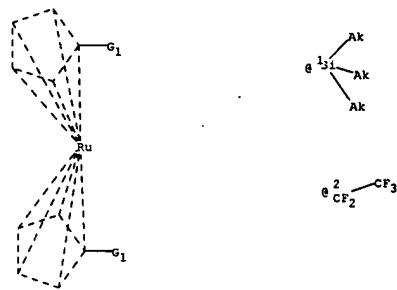


10/537,484 (interference search)

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	71	(556/9).CCLS.	US-PGPUB	OR	OFF	2007/03/17 19:00
L2	120	(556/136).CCLS.	US-PGPUB	OR	OFF	2007/03/17 19:02
L3	33	(427/252).CCLS.	US-PGPUB	OR	OFF	2007/03/17 19:15



chain nodes :

12 13 14 15 16 17 21 22

ring nodes :

1 2 3 4 5 6 7 8 9 10 11

chain bonds :

1-21 6-22 12-13 12-14 12-15 16-17

ring bonds :

1-2 1-5 1-11 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 7-8 7-11 8-9 8-11 9-10  
9-11 10-11

exact/norm bonds :

1-2 1-5 1-11 1-21 2-3 2-11 3-4 3-11 4-5 4-11 5-11 6-7 6-10 6-11 6-22 7-8 7-11 8-9  
8-11 9-10 9-11 10-11 12-13 12-14 12-15

exact bonds :

16-17

G1:F,CF3,[\*1],[\*2]

Match level :

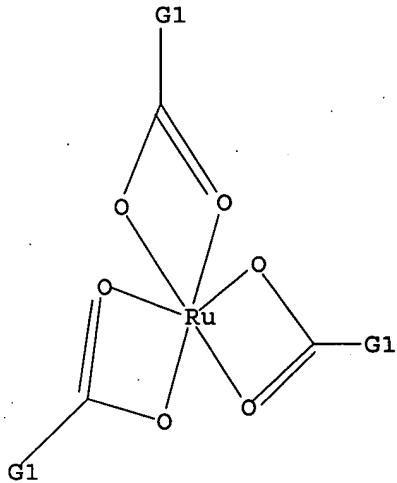
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:CLASS  
13:CLASS14:CLASS15:CLASS16:CLASS17:CLASS21:CLASS22:CLASS

10/537,484

(FILE 'HOME' ENTERED AT 18:34:11 ON 17 MAR 2007)

FILE 'REGISTRY' ENTERED AT 18:34:31 ON 17 MAR 2007  
L1 STRUCTURE uploaded

=> d 11  
L1 HAS NO ANSWERS  
L1 STR



G1 Me,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu,CF3

Structure attributes must be viewed using STN Express query preparation.

=> s 11  
SAMPLE SEARCH INITIATED 18:35:00 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 297 TO ITERATE

100.0% PROCESSED 297 ITERATIONS 0 ANSWERS  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 4907 TO 6973  
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s 11 full  
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FULL SCREEN SEARCH COMPLETED - 5886 TO ITERATE

100.0% PROCESSED 5886 ITERATIONS 0 ANSWERS  
SEARCH TIME: 00.00.01

L3 0 SEA SSS FUL L1

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L4 STRUCTURE uploaded

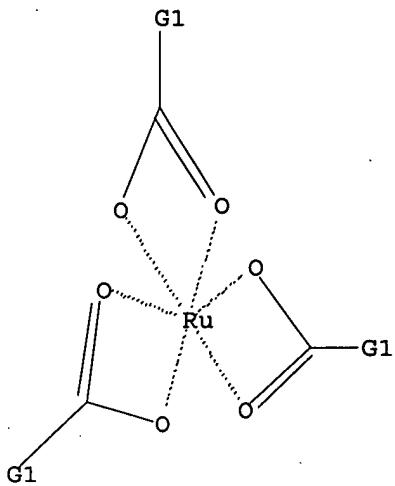
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(FILE 'HOME' ENTERED AT 18:34:11 ON 17 MAR 2007)

FILE 'REGISTRY' ENTERED AT 18:34:31 ON 17 MAR 2007

L1 STRUCTURE uploaded  
L2 0 S L1  
L3 0 S L1 FULL  
L4 STRUCTURE uploaded

=> d 14  
L4 HAS NO ANSWERS  
L4 STR



G1 Me,Et,n-Pr,i-Pr,n-Bu,i-Bu,s-Bu,t-Bu,CF3

Structure attributes must be viewed using STN Express query preparation.

=> s 14

SAMPLE SEARCH INITIATED 18:36:50 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 297 TO ITERATE

100.0% PROCESSED 297. ITERATIONS 0 ANSWERS  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
PROJ. ANSWERS: 0 TO 0  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 4907 TO 6973

T-5 0 SEA SSS SAM T-4

=> s 14 full  
FULL SEARCH INITIATED 18:36:56 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 5886 TO ITERATE

100.0% PROCESSED 5886 ITERATIONS 0 ANSWERS  
SEARCH TIME: 00.00.01

L6 0 SEA SSS FUL L4

10/537, 404

(FILE 'HOME' ENTERED AT 18:42:31 ON 17 MAR 2007)

FILE 'REGISTRY' ENTERED AT 18:42:41 ON 17 MAR 2007  
L1 STRUCTURE uploaded

=> d 11  
L1 HAS NO ANSWERS  
L1 STR

Structure diagram not available for display

Structure attributes must be viewed using STN Express query preparation.

=> s 11  
SAMPLE SEARCH INITIATED 18:43:07 FILE 'REGISTRY'  
SAMPLE SCREEN SEARCH COMPLETED - 1453 TO ITERATE

100.0% PROCESSED 1453 ITERATIONS 0 ANSWERS  
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*  
PROJECTED ITERATIONS: 26774 TO 31346  
PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s 11 full  
FULL SEARCH INITIATED 18:43:13 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 28802 TO ITERATE

100.0% PROCESSED 28802 ITERATIONS 5 ANSWERS  
SEARCH TIME: 00.00.02

L3 5 SEA SSS FUL L1

=> fil caplus  
COST IN U.S. DOLLARS SINCE FILE TOTAL  
ENTRY SESSION  
FULL ESTIMATED COST 172.10 172.31

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=> s 13  
L4 8 L3

=> d 1-8 bib abs

L4 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 2005:253944 CAPLUS  
DN 142:327289  
TI Deposition of ruthenium-silicon mixed adhesion films between low dielectric-insulator and diffusion-barrier layers  
IN Sakai, Tatsuya; Okada, Yukiko; Matsuki, Yasuo  
PA JSR Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 18 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

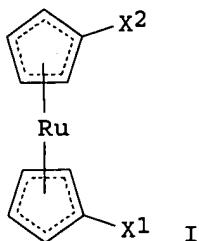
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2005079468	A	20050324	JP 2003-310453	20030902
PRAI JP 2003-310453		20030902		
OS MARPAT 142:327289				
AB The title deposition of adhesive layer between a low dielec. insulator layer and Damascene-formed diffusion-barrier/circuit layers involves CVD or coating-annealing with reactants containing (1) Ru compds. and (2) cyclic silane compds. The Ru compds. may be (A) (cyclopentadienyl derivs.) <sub>2</sub> Ru, (B) Ru(CO) <sub>3</sub> , (C) (ACAC') <sub>3</sub> Ru (ACAC' = resonated ligand OC(R <sub>2</sub> )CC(R <sub>2</sub> )O; R <sub>2</sub> = H, C <sub>1-6</sub> alkyl, fluoroalkyl, hydroxyalkyl), and/or (D) (R <sub>3</sub> CO <sub>2</sub> ) <sub>3</sub> Ru (R <sub>3</sub> = C <sub>1-6</sub> alkyl, fluoroalkyl, hydroxyalkyl). The deposition process provides a Ru-Si mixture adhesive film for effective adhesion in prevention of delamination between a low dielec. insulator layer and Damascene-formed diffusion-barrier/circuit layers.				

L4 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 2004:493925 CAPLUS  
DN 141:62428  
TI Ruthenium compound and process for producing metallic ruthenium film  
IN Sakai, Tatsuya; Okada, Sachiko; Matsuki, Yasuo  
PA JSR Corporation, Japan  
SO PCT Int. Appl., 38 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004050947	A1	20040617	WO 2003-JP11848	20030917
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005060814	A	20050310	JP 2003-318133	20030910
AU 2003272881	A1	20040623	AU 2003-272881	20030917
US 2006240190	A1	20061026	US 2005-537484	20050603

PRAI JP 2002-350951 A 20021203  
 JP 2003-282385 A 20030730  
 WO 2003-JP11848 W 20030917  
 OS MARPAT 141:62428  
 GI



**AB** A Ru compound capable of forming filmy metallic Ru of good quality; and a process for producing a metallic Ru film which comprises using the Ru compound to produce the film by CVD are described. The Ru compound as a material for CVD is represented by (I), where  $X_{1,2} = H, F$ , trifluoromethyl, pentafluoroethyl, or  $SiR_{1-3}$ , and  $R_{1-3} = C_{1-10}$  hydrocarbon group,  $Ru(OCOR_4)_3$ , where  $R_4 =$  trifluoromethyl and  $C_{1-10}$  hydrocarbon group, or  $YRuH_nL_m$ , where  $Y =$  cyclopentadienyl, cyclohexadienyl, cycloheptadienyl, cyclooctadienyl, butadienyl, or 2,3-dimethyl-1,3-butadienyl,  $L =$  carbonyl,  $Me$ , or ethenyl,  $n = 1-4$ ,  $m = 0-2$ ,  $n + m = 3$  or 4.

**RE.CNT 9** THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

**L4** ANSWER 3 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
**AN** 2002:743394 CAPLUS  
**DN** 137:370207  
**TI** Molecular Structure of  $Ru(\eta\text{-C}_5\text{Me}_5)(\eta\text{-C}_5\text{F}_5)$  by Gas-Phase Electron Diffraction and Density Functional Theory  
**AU** Johnston, Blair F.; Rankin, David W. H.; Robertson, Heather E.; Hughes, Russell P.; Lomprey, Jeffrey R.  
**CS** Department of Chemistry, University of Edinburgh, Edinburgh, EH9 3JJ, UK  
**SO** Organometallics (2002), 21(22), 4840-4846  
**CODEN**: ORGND7; **ISSN**: 0276-7333  
**PB** American Chemical Society  
**DT** Journal  
**LA** English  
**AB** The structure of  $Ru(C_5Me_5)(C_5F_5)$  was determined by gas-phase electron diffraction and d. functional theory. Comparison structures of the known compds.  $Ru(C_5H_5)_2$  and  $Ru(C_5F_5)(C_5H_5)$ , as well as the unknown compound  $Ru(C_5F_5)_2$ , also were determined by d. functional theory.

**RE.CNT 42** THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

**L4** ANSWER 4 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
**AN** 1996:591079 CAPLUS  
**DN** 125:276161  
**TI** Synthesis and properties of perfluoroferrocene and perfluororuthenocene. A potential class of high temperature materials  
**AU** Winter, C. H.  
**CS** Dept. Chem., Wayne State Univ., Detroit, MI, USA  
**SO** Report (1995), Order No. AD-A307650, 17 pp. Avail.: NTIS  
 From: Gov. Rep. Announce. Index (U. S.) 1996, 96(19), Abstr. No. 19-00,395  
**DT** Report  
**LA** English

AB Preparation of decafluoroferrocene and decafluororuthenocene from permetalated precursors, preparation of mono- and disubstituted perfluorometallocenes and evaluation of the thermal characteristics of polymers and oligomers derived from the perfluorometallocenes are reported. The preparation of permecurated, perlithiated, permagnesited, perzincated, and peraluminated cyclopentadienyl complexes were examined with the reactions of these species with simple electrophiles. Permecurated metallocenes cannot be fluorinated to give decafluorometallocenes. Most fluorinating agents are not strong enough to react with the permecurated metallocenes, while very strong fluorinating agents destroy the metallocenes. More reactive C-metal bonds would require less reactive fluorinating agents, which might lead to a successful preparation of decafluorometallocenes. It has so far not been possible to find that right combination of permetalated metallocene and electrophilic fluorinating agents that gives the perfluorometallocene.

L4 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1995:806948 CAPLUS

DN 123:340365

TI Electrochemical Studies of Organometallic Complexes with Tetra-n-butylammonium Tetrakis[3,5-bis(trifluoromethyl)phenyl]borate as the Electrolyte. X-ray Crystal Structure of [C5(CF3)Me4]Fe(C5H5)

AU Gassman, Paul G.; Sowa, John R., Jr.; Hill, Michael G.; Mann, Kent R.

CS Department of Chemistry, University of Minnesota, Minneapolis, MN, 55455, USA

SO Organometallics (1995), 14(10), 4879-85

CODEN: ORGND7; ISSN: 0276-7333

PB American Chemical Society

DT Journal

LA English

AB The tetra-n-butylammonium tetrakis[3,5-bis(trifluoromethyl)phenyl]borate (TBA+TFPB-) electrolyte/CH<sub>2</sub>Cl<sub>2</sub> solvent system improves the electrochem. reversibility of pentamethylcyclopentadienyl (Cp\*) ruthenocenes, Cp\*RuCp' (Cp' = fluorenyl, indenyl, cyclopentadienyl (Cp), acetylcylopentadienyl, pentachlorocyclopentadienyl), as indicated by ip,c/ip,a ratios of 0.79-1.0 as determined by cyclic voltammetry. The quasi-reversible potentials (E<sup>o'</sup>) of the Cp\*RuCp' complexes and the complete series of Group 8 Cp<sub>2</sub>M and Cp\*<sub>2</sub>M complexes (M = Fe, Ru, Os) are also reported in TBA+TFPB-/CH<sub>2</sub>Cl<sub>2</sub>. A study of the E<sup>o'</sup> values of Group 8 complexes containing the (trifluoromethyl)tetramethylcyclopentadienyl (Cp.thermod.) ligand indicate that the Cp.thermod. complexes are slightly (0.06-0.08 V per Cp.thermod.) more difficult to oxidize than the cyclopentadienyl (Cp) derivs. The structure of [C5(CF3)Me4]Fe(C5H5) was determined at -101° by a single-crystal x-ray diffraction study. The structure shows eclipsed Cp.thermod. and Cp rings, and the Fe to Cp.thermod. centroid distance (1.643 Å) is slightly shorter than the Fe to Cp centroid distance (1.651 Å); otherwise, no extreme differences in the coordination of the Cp.thermod. and Cp rings are noted. An IR spectroelectrochem. study of trans-[Cp.thermod.Fe(CO)<sub>2</sub>]<sub>2</sub> shows that it is electrochem. oxidized to trans-[Cp.thermod.Fe(CO)<sub>2</sub>]<sub>2</sub><sup>+</sup> in TBA+TFPB-/CH<sub>2</sub>Cl<sub>2</sub>.

L4 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1994:54700 CAPLUS

DN 120:54700

TI Preparation of 1,2,3,4-tetraalkyl-5-perfluoroalkylcyclopentadiene and bis(perfluoroalkyl)trialkylcyclopentadiene and their transition metal complexes

IN Gassman, Paul G.; Sowa, John R.; Mickelson, John W.

PA USA

SO U.S., 10 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

PATENT NO.

KIND DATE

APPLICATION NO.

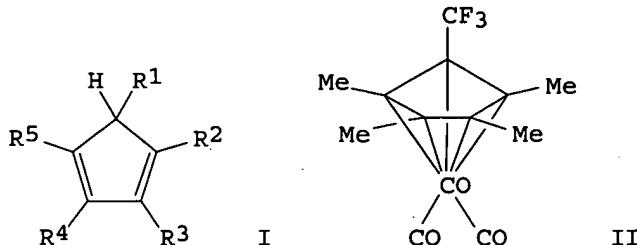
DATE

PI US 5245064  
PRAI US 1992-929959  
OS MARPAT 120:54700  
GI

A 19930914  
19920814

US 1992-929959

19920814



AB The preparation of title cyclopentadienes I (R1 = C1-5 perfluoroalkyl; R2, R3 = C1-5 perfluoroalkyl, C1-5 alkyl; R4, R5 = C1-5 alkyl) with no more than two R1, R2, and R3 can be C1-5 perfluoroalkyl and their transition metal complexes is described. Thus, lithiation of cis-2-bromo-2-butene with lithium wire in Et<sub>2</sub>O followed by treatment with CF<sub>3</sub>CO<sub>2</sub>Et and acidic workup gave MeCH:CM<sub>2</sub>(OH)(CF<sub>3</sub>)CMe:CHMe which on cyclization with MeSO<sub>3</sub>H in CH<sub>2</sub>Cl<sub>2</sub> gave title cyclopentadiene I (R1 = CF<sub>3</sub>, R2-R5 = Me). Reaction of I (R1 = CF<sub>3</sub>, R2-R5 = Me) with Co<sub>2</sub>(CO)<sub>8</sub> in the presence of 1,3-cyclohexadiene in CH<sub>2</sub>Cl<sub>2</sub> gave 14% cobalt complex II.

L4 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1993:7176 CAPLUS

DN 118:7176

TI Parameter scale for substituent effects in cyclopentadienyl complexes based on gas-phase electron-transfer equilibrium studies of ruthenocene derivatives

AU Ryan, Matthew F.; Sidle, Allen R.; Burk, Mark J.; Richardson, David E.  
CS Dep. Chem., Univ. Florida, Gainesville, FL, 32611, USA

SO Organometallics (1992), 11(12), 4231-7  
CODEN: ORGND7; ISSN: 0276-7333

DT Journal

LA English

AB Gas-phase electron transfer equilibrium (ETE) studies have been used to obtain the free energies of ionization at 350 K for a number of ruthenocene derivs., LL'Ru, where L and L' are derivs. of the  $\eta^5$ -cyclopentadienyl ligand (Cp). Equilibrium consts. were determined by using Fourier transform ion cyclotron

resonance mass spectrometry. Various metallocene and organic reference compds. have been used to establish the free energies of ionization ( $\Delta G_i^\circ$ ), and the derived values cover a range from .apprx.135 to 195 kcal mol<sup>-1</sup>. A parameter scale ( $\gamma$ ) for Cp substituent effects is derived from the data by assigning anchor parameters to Cp and  $\eta^5$ -pentamethylcyclopentadienyl (Cp'). The ETE results suggest that L = fluorenyl does not stabilize the oxidation of Cp'RuL to the extent that L = Cp' does, with the effect of L = Flu being .apprx.65% of the Cp' effect. The consistency of the calculated free energies of ionization based on the assumption of ligand additivity is within .apprx.3 kcal mol<sup>-1</sup>. The potential usefulness of the  $\gamma$  parameters in correlation and prediction of Cp substituent effects in organometallic reactivity and catalysis is considered.

L4 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1992:490485 CAPLUS

DN 117:90485

TI 1,2,3,4-Tetramethyl-5-(trifluoromethyl)cyclopentadienide: a unique ligand

with the steric properties of pentamethylcyclopentadienide and the electronic properties of cyclopentadienide

AU Gassman, Paul G.; Mickelson, John W.; Sowa, John R., Jr.

CS Dep. Chem., Univ. Minnesota, Minneapolis, MN, 55455, USA

SO Journal of the American Chemical Society (1992), 114(17), 6942-4.

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

OS CASREACT 117:90485

AB 1,2,3,4-Tetramethyl-5-(trifluoromethyl)cyclopentadiene (Cp.thermod.H) was prepared from cis-2-bromo-2-butene by lithiation, and reaction of cis-2-lithio-2-butene with Et trifluoroacetate (82% yield), followed by cyclodehydration with methanesulfonic acid (82% yield). Complexes of Cp.thermod. with iron, ruthenium, osmium, and rhodium were prepared. These complexes were compared to the corresponding pentamethylcyclopentadienide (Cp\*) and cyclopentadienide (Cp) complexes through x-ray photoelectron spectroscopic measurement of the transition metal inner shell electron binding energies. Although sterically comparable to Cp\*, Cp.thermod. is electronically identical to Cp based on the observation that the binding energies of the inner shell electrons of iron, ruthenium, osmium, and rhodium in their resp. complexes are identical.